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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/692,343	10/23/2003	Kyoung-Youm Kim	5000-1-477	8522
33942	7590	10/18/2006	EXAMINER	
CHA & REITER, LLC 210 ROUTE 4 EAST STE 103 PARAMUS, NJ 07652			PAK, SUNG H	
			ART UNIT	PAPER NUMBER
			2874	

DATE MAILED: 10/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/692,343	KIM ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Sung H. Pak	2874	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 02 August 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-9 and 11-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11-20 is/are allowed.
- 6) ☒ Claim(s) 1,3-5,7 is/are rejected.
- 7) ☒ Claim(s) 2,6,8 and 9 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6/05/2006 has been entered.

### ***Response to Arguments***

Applicant's arguments filed 6/05/2006 regarding the rejection of claims 1-9 have been fully considered but they are not persuasive.

Regarding claim 1 and its dependent claims, it is argued that Kurata reference does not disclose "the light source and the photodetector connected to one of the first and second waveguides, respectively" as recited in claim 1. (see page 10 of applicant's REMARKS filed 6/05/2006)

However, in the very next sentence, applicant admits that "[i]nstead, Kurata discloses a first waveguide connected to the light source 36, and a second waveguide connected to a reflective film 35 and a light receiving element 37." The examiner respectfully submits that the applicant is correct in that Kurata does disclose the first waveguide being connected to the light source 36, and the second waveguide being connected to a light receiving element 37. Please refer to Fig. 1 of Kurata. As such, Kurata explicitly discloses all the claimed limitations *as they are currently recited in the claim*, specifically "where the light source and the photodetector are

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connected to one of the first and second waveguides, respectively” as recited in claim 1. Thus, the claim rejection based on Kurata is proper, and this ground of rejection is maintained by the examiner.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3, 4, and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Kurata (U.S. Patent 5,633,962).

Regarding claim 1, Kurata discloses an optical waveguide element having a directional coupler (waveguides shown on the substrate 38) comprising: a first waveguide (32) and second waveguide (34) located adjacent to each other; a first dummy waveguide (extending of the second waveguide 34 that forms a directional coupler 33); a reflector (35) on an end surface of the first dummy waveguide; and a second dummy waveguide (41), wherein optical signals progressing from the second dummy waveguide to the first dummy waveguide attenuate while sequentially passing through the reflector and the second dummy waveguide (see Fig. 1 and column 4 lines 29-47).

Regarding claims 3, 4, 7, Kurata discloses an input waveguide (39) extending from one end of the first waveguide (32), and enabling optical signals to be input to the direction coupler;

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an output waveguide (42) extending from other end of the first waveguide; and a light source (36) coupled an end surface of the output waveguide, wherein optical signals ( $\lambda_1$ ) generated from the light source pass through the output waveguide (42) and are output to the input waveguide (39) through first waveguide (see Fig. 1 ).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kurata (U.S. Patent 5,633,962) as applied to claims 1, 3 and 4 above, and further in view of Moriya et al (U.S. Patent 5,200,612).

As described above, Kurata discloses the claimed invention except an inclined end surface of the second dummy waveguide. Moriya et al teach using inclined fiber end for coupling the fiber and a photodetector for improved coupling efficiency (see column 4 lines 62-67). Since Kurata's second dummy fiber is coupled to a receiver (37), it would have been obvious to one having ordinary skill in the art at the time the invention was made to use an inclined surface for the second dummy optical waveguide of Kurata that couples to the receiver as taught by Moriya et al for optimum coupling efficiency.

***Allowable Subject Matter***

Claims 2, 6, 8, and 9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The reasons for the indication of allowable subject matter for claims 2, 6, 8, and 9 were discussed in the previous office action.

Claims 11-20 are allowed.

The following is a statement of reasons for the indication of allowable subject matter: none of the prior art fairly teaches or suggests a waveguide element having a second dummy waveguide with an internally isolated surface, and a first reflector coupled to the second end surface of the second dummy waveguide that is disposed away from the internally isolated end surface as claimed in the instant application.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sung H. Pak whose telephone number is (571) 272-2353. The examiner can normally be reached on Monday- Friday, 9AM-5PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (571)272-2344. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Sung H. Pak  
Primary Patent Examiner  
Art Unit 2874